

Creative Agriculture Development Model and Strategy in Southeast Coastal Region

—In Ecology and Low-carbon Perspective

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Abstract

Creative agriculture is a new modern industry status of agriculture development. Developed countries have witnessed its booming growth as a new agriculture industrial operational model. In southeast of China, agriculture has made extraordinary progress with the features of high production, additional value and technological content for its export-oriented philosophy. Recent years, with the guidance of ecological and low-carbon idea, creative agriculture in southeast coastal provinces has developed significantly. Based on the summary of creative agriculture development outcome from developed countries, the authors try to propose creative agriculture development model and strategy under the frame of low-carbon and ecology after analyzing its appropriateness in southeast coastal region, and then offer decision-making reference for establishment of agriculture-based industrial status with high additional value in this region.

Keywords

Creative Agriculture; Ecology; Low-carbon; Southeast Coastal Region

Introduction

Modern agriculture starts from the early of 20th century. With the efforts of half of century, most of industry-developed countries have finished the transition from traditional agriculture to the modern, and developing countries have also been in the way of transition. Though early modern agriculture technological application boosted its development, it negatively affected ecological environment. A profound modern agriculture should take ecological environment protection and improvement into account as well. People therefore proposed several modern agriculture development directions such as "ecological agriculture", "sustainable agriculture" etc.

In the competitive and challenging 21st century, advanced technology is widely applied in agriculture. Some new tendency of the world agricultural development arise:

- facility agriculture;
- gene technology agriculture;
- scale agriculture and specialized division;
- precision agriculture;
- sustainable agriculture.

All these take agricultural high-technology as the core (Mu Zhang 2003). Most of industries in the southeast coastal regions of China suffered the global financial crisis in 2008. Fortunately, production of creative agriculture has been growing gradually under such severe and complicated settings to be a new agriculture status. In China, Dr. Zhang Jigang first put forward the concept of creative agriculture and got supports from other scholars. Creative agriculture refers to taking the increase in the added value of agricultural products as the goal (Jigang Zhang 2008). After opening reform, this creative agriculture initially appeared in Beijing, Chengdu, Shenzhen and Guangzhou, and its steadiness stood out in the era of financial crisis. Statistics of investment market in 2009 indicated there was an increase in agriculture investment from Chinese private equity. Creative agriculture is not only regarded as the chance to step out the trouble of crisis, but also helps to improve agriculture economic effect, change agricultural growth model to realize urban-rural industry connection so as to find a new way to stimulate modern agriculture. Therefore, it is full of significance for sustainable development in south-eastern coastal region.

Literature Review on Foreign Creative Agriculture Development

Creative agriculture started in developed countries in the late 1990s with positive economical and social effect. The countries such as Holland, Japan, Germany and England have achieved profound transition in agriculture economic development by innovation agriculture.

Creative Agriculture Development Model in Developed Countries

British creative agriculture development model is mainly in the way of tourism and environmental-friendliness. In Britain, schemes offering financial incentives and advice about diversification, together with partial relaxation of planning restrictions, have facilitated the development of farm-based tourism (Nigel Walford 2001). The Farm Diversification Grant Scheme (FDGS), introduced by the Ministry of Agriculture, Fisheries and Food (MAFF) in 1988, was one of the first measures offering grants to farmers to help them develop diversification schemes. At that time farmers' response to the scheme was fairly modest, with fewer than 2000 opting to join (Ilbery & Stiell 1991). But now, nearly a quarter of British farms take part in the project of agriculture tourism. Every agricultural scenic spot will offer visitors the opportunity to participate in village life and enjoy countryside scenery. Facts prove that tourism development helps to safeguard the farm and village's environment effectively. Till 2009, there have been 25 thousand farmers who participated in agriculture environmental scheme centered on scenery protection. The farmers planted the wall of shrub fence wall in the length of 40 thousand meters, and they also managed 230 thousands agriculture ponds which greatly enriched agriculture tourism resource (Xiangli Wu 2005). Farm tourism plays a great role in the rural environment, such as job creation, farm diversification, promotion of local food and drink, destination resource stewardship and community cohesion (Claire Haven-Tang, Eleri Jones 2012). Recent years, British government takes active and useful efforts to reduce negative effect on environment, one of which is named as "Beddington zero fossil energy development" which has shown its marvellous success. It puts many energy-saving and emission-reducing equipments in one ecological village, especially the recycling use of sunshine, waster water, air and woods.

Its purpose is to exhibit all the good ideas for sustainable residence and reduction on the use of resource, water and car in the city.

In Germany, rural and particularly farm tourism received increased interest in the early 70's, mostly initiated by the Federal Ministry of Nutrition, Agriculture and Forestry (Martin Oppermann 1996). And German creative agriculture began in 1990s with the main form of citizen farmstead and recreational grange. Citizen's farmstead located in suburb can provide small pieces of land to citizen, in which people can plant flowers, grass, vegetale or run family agronomy. People can experience the pleasure from nature and farm life. While recreational grange will be built in forest or grassland area which plays the role of environmental safeguard in water-saving, wind breaking, air-cleaning, and soil erosion avoidance. It also bears the function of scientific and environmental education (Xuemei Yu 2009). In Munich, the unique "Riding treatment project" and scheme of "Green Belt Project" attracts large numbers of visitors. "Green Belt Project" includes three aspects: Ecological Agriculture, Environmental Protection, Cultural and Leisure. In addition to these, "Green Belt Project" provides people with "riding treatment project" (Xuemei Yu 2006). "Riding treatment project" makes use of a variety of animals, such as horses, dogs, rabbits, etc., to treat patients with various physical and mental diseases, which is the major feature of the creative agriculture in Germany.

Creative agriculture in Holland adopts the model of hi-tech and export-oriented development. The new agricultural technology, new varieties, new technology, new equipment continue to emerge in Holland, which make Holland become the leader of the world in the creative agricultural scientific and technological content (Liwei Liu 2010). It has completed creative agriculture industrial chain in advanced facility agriculture, precision agriculture, and aggregate production in green-house and horticulture crops (Meilian Yu, Chen Zhang 2012). As its innovation agriculture plays marvellous role in the foreign exchange earning function, the production of some agriculture products is in the leading position of world. Since 1990s, Holland has made \$13 billion in net export value of agriculture products, which is 10% of market share in world agriculture product trade and occupies No.1 in per capita foreign exchange earnings

in agriculture product. The Holland creative agricultural industrial chain includes almost all bulk exports of agricultural products. Among them, the flower industry chain is the most representative. Holland is the world's largest flower exporter, and in 2008 the export horticultural products account for about 60% of the global flower trade, with exports around 6 billion euros (Mingyue Bai 2011). Through developing creative agriculture, Holland has become the third biggest agriculture country after America and France.

Creative agriculture in Asian started late, and so far Japan, a representative in this field, has started voluntarily by farmers since 1970s which mainly focuses on the idea of multi-functional and becomes rich. In Dafen county, the campaign of "One product in one village" advocating that every village should produce more than one specific product which is not just limited to agricultural products but specialty, cultural industries and tourism industry, in order to revitalize local economy, is the representative of the early creative agriculture. (Qingze Li 2006). The target of "One product in one village" is the revitalization of agricultural products, reform of agricultural products technology, and increase in the value of agricultural products (Qianwen Li 2005). Since 1979, this campaign has fostered 336 kinds of specialized products. With agriculture industrialization, scale production and specialization, 126 products can earn \$1 million respectively per year. And farmers in Dafen county gain income to \$27 thousand per capita which is in the leading position in Japan and all over the world as well (Ping Liu 2009). Recent years, Japanese government advocates national campaign of revitalizing urban agriculture, establishing city garden, building beautiful village, having green leisure activity, which brings Japanese creative agriculture into a new stage.

In summary, the essence of innovation agriculture is innovative industry, and the pattern "technology and non-technology progress+innovation+culture+market" is the key to innovative agriculture's operation, value addition and sustainable development (Liwei Liu 2010).

Profile of Creative Agriculture Research in China

Foreign creative agriculture gradually works out the model of industry integrating with the idea of low-carbon, environment-friendliness and tourism. Their

mutual influence and continuous evolution make present advanced status of modern agriculture development. Agricultural condition in southeast coastal regions of China shares a lot of similarities with that of Britain, Germany, Holland and Japan, so their experience has the most reference value for creative agriculture development in this region.

Recent years, Chengdu has made a rapid progress in creative agriculture with the representative model of "Five Golden Flowers" (Jigang Zhang 2008). Jinjiang district of Chengdu city making full use of its geographic advantage in creative agriculture to cooperate with creative art such as painting, photography, sculpture and music composition, originally makes five golden flowers including flower farmer building, happy Meilin, Jiangjia vegetable land, Dongli chrysanthemum garden and lotuses pond. It has been ranked as 4A scenery spot by national tourism bureau which is an integration of "environment, culture and flower". The whole spot is invested with state-owned capital RMB180 millions and private capital RMB 200 millions. During 6 years, it has received 10 million people per year, the income of village reached RMB36 millions, and the tax paid to local government is more than RMB 10 millions. People admit that five golden flowers improve the connotation of Jinjiang's agriculture development; as a result it has also been a new example for creative agriculture to integrate culture creativity with traditional agriculture.

Early April of every year, there is a golden sea of rape petal around Fengxian village of Shanghai which attracts lots of visitors. What's more, the local government organizes rape petal festival to publicize the natural beauty. Besides appreciating the brilliant natural scenery, visitors can take part in 24 thematic activities such as love party in countryside, sketch, exhibition of Fengxian products etc as well as they can enjoy the happiness in farm for free. During the festival, there are different experience programs, such as flower arrangement and weave, in which visitors can see the manufacture of flower arrangement and farm tourism souvenir; in addition, in the workshop or by the land, farmer will show the process of oil pressing and visitors can participate in the work as well (Shujin Wang 2009).

Mali mountain agriculture ecological garden in the city of Xinxin of Jianxu province is a national 4A

scenery spot which contains 5 function areas, including fruit forest in 17.33 hectares with ecological forest and flowers, planting area in 11.33 hectares for all kinds of specific, tender and non-seasonal vegetables, leisure square in 3.33 hectares for visitors' amusement with entertainment facility and self-service catering. Fishing centre in 1.33 hectares is for fishers; in addition, it is equipped with pavilion, gallery, bamboo, preach and ginkgo etc to enhance garden's beauty (Junling Zhou 2009). What's more, there appears so-called panorama industry value system model which includes core industry, supportive industry, ancillary industry and expanding industry. The first, second, and third industries are mutually working with each other, so the traditional and modern industry can be connected closely. Tradition, single-function agriculture and processing products have become the carrier of modern fashionable creative product to run many consumption functions. Therefore, it opens a new market and value space. Creative agriculture development has caused noticeable industry multiplier effect (Wuwei Li 2009).

There are many new models of creative agriculture in China, among of which, tourism development model is a mature one which mainly locates in suburb. Local farmers make the best use of their own advantage to work out a special creative project, such as sightseeing garden, leisure garden, citizen farmstead, agriculture theme garden, education garden, forest amusement area and special village tour etc. They successfully break the constraints of village traditional resource to gain high economic and social effect to encourage the regional economy as well (Jun Zhang 2009). In the south of China, creative agriculture in Hainan province mainly focuses on farm tour, leisure agriculture and modern agriculture exhibition garden etc (Yangfan Sun 2011). In Guangxi province, it develops creative agriculture model in ecology tour and new-village-establishment thematic program (Guanning Tan 2008).

In a word, we can summarize 4 features in creative agriculture:

- Re-integration of special resource;
- Uniqueness of product;
- Upgrading of industry construction and extension of agriculture industry chain;
- Enhancing overall competitiveness of regional agriculture (Xunlian Si 2010).

Analysis on Modern Agriculture Development in Southeast Coastal Region

Agriculture Production in Southeast Coastal Region

At the end of 2010 the arable area in Shanghai, Jiangsu, Zhejiang, Fujian, Guangdong and Hainan is 9.71% of China, whilst the population is over 22.84% of all, local financial income is 38.17%. It is obvious that southeast coastal region is featured with large population and advanced economy. Moreover, this region abounds with natural resource with high level of urbanization and opening degree. No one will doubt its vital role in Chinese economic development on participation in globalization and performance in pacific-rim economy circle. (See TABLE 1).

TABLE 1 AGRICULTURE PRODUCTION IN SOUTHEAST COASTAL REGION

Region	Arable area(in thousand hectare)	Population (in 10000 person)	Local financial income (in 100 millions RMB)	Agriculture total output value (in 100 millions RMB)
Shanghai	244.0	2302	2873.58	155.3
Jiangsu	4763.8	7866	4079.86	2269.6
Zhejiang	1920.9	5443	2608.47	1041.3
Fujian	1330.1	3689	1151.49	976.6
Guangdong	2830.7	10430	4517.04	1760.2
Hainan	727.5	867	270.99	341.7
Total	11817	30601	15501.43	6544.7
Proportion in the country	9.71%	22.84%	38.17%	17.72%

Information source: "Statistical yearbook of 2011", arable area statistic is from that of 2008.

Since the opening reform, agriculture in southeast coastal region has experienced reform in operation mechanism, adjustment of industry structure, industrialized operation and export agriculture development. Along with adjustment in agricultural strategic structure, agriculture structure in Yangtze River and Pearl Delta river has changed greatly, that is, agriculture form has changed from import to export, from labor-intensive to technology-intensive, from traditional planting to modern urban agriculture. Moreover, operational model has transferred from single to diversified business, from private-running to scale operation, along with the rapid increase in the

agricultural industrialization level. This region gradually sets up agriculture base with local feature and strengths, and production becomes mass, regional, and specialized. What's more, Yongtze River Delta and Pearl River Delta have developed various modern agriculture forms, for example, facility agriculture, export-centered agriculture, ecological agriculture, precision agriculture, sightseeing agriculture (tourism agriculture) etc. However, compared with industrialization degree, agricultural process is relatively slow in this region. Its agricultural total output value is only 17.72% in the country in 2010, so there is still a large gap to meet the requirement of modern agriculture. Hence, agriculture needs creativity to establish agriculture-based industry status with high added value.

The Boom of Creative Agriculture in Southeast Coastal Region

Creative agriculture in China started in 1990s and now it is still at the early stage with small scale. Fujian, Guangdong and Shanghai are leading this campaign. As the province of Fujian is neighbouring in Taiwan where creative agriculture develops well, Taiwan's example is able to enlighten agricultural industry structure adjustment, and agriculture quality effect improvement in Fujian, it therefore stimulates the start of creative agriculture along southeast coastal region. Recent years, Guangdong province tries a creative agricultural economic approach by establishing "modern creative agricultural economic garden" with setting up experimental unit of "brand centre" to offer feasible solution to village environment problem. The Province of Zhejiang and Jiangsu work hard on creative agriculture based on the ideology of increasing the added value of agriculture production. Haian county of Jiangsu province absorbs the idea of aesthetics to greenhouse vegetable planting, and this combination of agriculture product with culture and creative arts plus the idea of setting up creative production, life and ecology, developing crops collection and processing, encouraging experience tourism and agricultural souvenir exhibition brings farmers increasing income. Suzhou city develops recreational experience tourism by making full use of its climate, scenery, cultural heritage and culture of health preservation. This approach benefits the promotion of win-win economy development and

environment protection, cooperation among government, enterprise and community to form the urban-rural complementary model. Zhoushan city of Zhejiang province develops creative agriculture to make "creative valley of island arts". As the important role of creative agriculture played in modern agriculture, creative agriculture along southeast coastal area is growing rapidly, and their characteristics are highlighted as well. They attach importance to fostering three creative agriculture based on "sightseeing, experiment, talents" with realizing the frame of cohesion between south and north, cooperation between east and west.

Though southeast coastal region abounds with water-heat resource, high multiple cropping index, favourable agriculture climate, it is the area of large density of population with limited arable land area per person. Just like Holland which is a famous lowland country, quarter of its land is beneath the ocean, and every person only has one Mu for arable land. Therefore, southeast coastal region should learn from Holland's hi-tech intensive creative agriculture development model, that is, to introduce intensive management, design hi-tech product in order to achieve the strategy of technology advancement.

What's more, as the first place to carry out opening reform, southeast coastal region enjoys advanced economy, high level of urbanization. With the growth both in the living standard and quality, people are eager to be far from urban and closed to village to release tension and appreciate beautiful scenery. That is just the reason for start of early agriculture tourism in Britain, Germany and Japan. Hence, southeast coastal region can learn the idea of tourism and environmental friendliness creative agricultural model from Britain, and social life development model from Germany to explore appropriate way for creative agriculture.

Creative Agriculture Development Model and Characteristics

Creative Agriculture Development Model and Characteristics

As for different geographic condition, development basis and characteristics, there are various creative agriculture development models along southeast coastal region. (See TABLE 2).

TABLE 2 CREATIVE AGRICULTURE DEVELOPMENT MODELS IN SOUTHEAST COASTAL REGION

creative agriculture development models	main features	existing demonstration zone
Chencun model	Chencun's agriculture product is integrated with culture and arts to enhance its added value. People support flower trade in the aspects of exhibition, information, tourism, academic research and training to motivate its upgrade and progress	Shunde district of Foshan city in Guangdong province
Ecological tourism model	Farmers develop pomegranate trade, by means of the improvement in its quality and production, as well as the setup of unique brand, boutique strategy, strengthening on primary and leading industry in order to create sightseeing tourism agriculture brand	Jiawang district, Xuzhou city, Jiangsu province
Ecological new village model	Trees are grown in demonstration village to establish "ecological family, ecological village" and national "green and well-off" village	Pizhou city of Jiangsu province
Agriculture demonstration base model	People set up Malingshan agriculture ecological garden which is the most advanced in province by integrating scientific education, sightseeing, recreation with production	Ma Lingshan of Xinyi city in Jiangsu province
Agriculture-product-oriented model	One agriculture product is chosen as a theme, and developed along with ecological tourism, but there are few projects like that. For example: Red Fuji apple festival in Feng county.	Feng county of Xuzhou city in Jiangsu Province
Agriculture-process-application model	Farmer exhibits fishing process with giant net by sharing the pleasant scenery for visitors and encouraging their participation.	Qiandao Lake of Zhejiang province
Spatial agglomeration development model	Combining modern agriculture with village tourism, creative agriculture garden is equipped with function production, sightseeing and recreation to form the spatial agglomeration status of "one core, four garden and ten routes"	Fengxian district of Shanghai

Cultural development model	In creative agriculture garden of Fengxian county, people cultivate goose-shaped calabash, apple with the sign of "Fu", or develop the activities such as painting with crop straw, weave grass shoes, handbag or animals etc, or making carving works with nutshell, almond shell, peach shell etc.	Fengxian District of Shanghai
Shanghai Model	Meiyang farmstead displays three-beauty agriculture to advocate the combination of taste art with visual arts. As future agriculture will be featured with beauty in appearance, color and taste, it is made to be suburban ecological creative agriculture garden with the function of green ecological agriculture, recreation, sightseeing and tourism.	Shanyang county, Jinshan district of Shanghai

Making a summary on the above mentioned creative agriculture development models, it can be seen that most of them have set up new market consumption demand with creativity to form agriculture-based, creativity-centered industry system which opens a new space for growth of agriculture and villages. Through scale and industrialized operation, it has transferred industry agglomeration model from "creativity", "creative industry" to "creative economy" to reach maximization of industry value. For instance, modern agriculture in Shanghai will never be constrained by traditional planting and breeding industry any more, instead, it contains the second industry such as production material industry and food processing industry, the third industry such as transportation, technology and information etc. in this way, the first, second and third industries cooperate well. Xinghui rural vegetable garden of Guangming groups in Shanghai and agriculture creative garden of Fengxian county adopt unique cultivation technique to form effective cooperation between traditional agriculture and sightseeing recreation. Moreover, these models are oriented to market demand, they so have established export running model and "trade-production- agriculture-integrated" organization model to realize optimal distribution of resource. These years, Cross-Taiwan-Straits agriculture cooperation experimental districts in Fuzhou, Zhangzhou and Xiamen have expanded to the whole province of Fujian, which is named as "Cross-Taiwan-Straits agriculture cooperation experimental district". And supported by this communication platform, Sanming city promotes its special agriculture product to actively encourage its

connection with Taiwan's agriculture technology and capital to absorb investment from Taiwan. So far, there has run 15 foreign agriculture enterprises or joint ventures, whose gross investment reaches RMB18 millions, with RMB90 millions on yearly output value.

Establishing Export-oriented Creative Agriculture Model

With rapid economic development and intensive agriculture growth, agriculture in southeast coastal region confronts some problems in resource and environment, that is, reduction of land resource, deterioration of degradation, decline of service function in ecological system, deterioration of water quality, serious blow-down from land. Therefore, under the philosophy of ecological sustainable development and low-carbon economy, creative agriculture in southeast coastal region should utilize the most advanced ecological and low-carbon technology all over the world to improve agriculture development condition to gradually achieve ecological, low-carbon export-oriented creative agriculture development model. see FIG. 1.

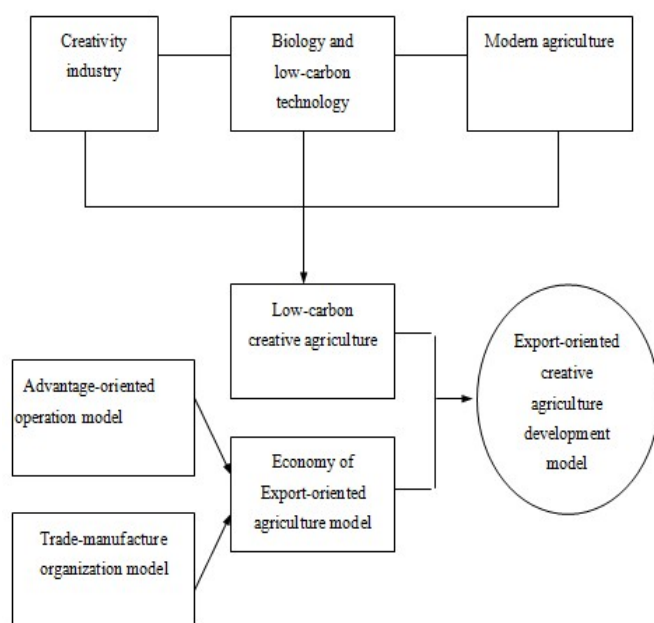


FIG. 1 EXPORT-ORIENTED CREATIVE AGRICULTURE DEVELOPMENT MODEL

For example, Xi Mage Village of Wangpin County in Men Tougou district of Beijing learning from the idea of carbon sink to build carbon-sink fruit planting experience center, organizes the programme of fruit tree plant claim to develop carbon-sink fruit forest industry. What's more, it chooses carbon-sink excellent farmer to work out courtyard economic

model in "methane +vegetable in greenhouse + courtyard planting". Therefore carbon-sink forestation combines with village tourism to carry out low-carbon village experience tourism.

Development Strategy of Creative Agriculture in Southeast Coastal Region

In the view of low-carbon and ecology plus export-oriented creative agriculture development model, the author proposes following strategies for southeast coastal region:

1) It is Recommended to Develop low-carbon Creative Agriculture Production by Cultivating Agriculture Resource Characteristic.

According to unique situation of agriculture resource in southeast coastal region, people can adjust and optimize agricultural production structure, develop and promote various carbon-saving and carbon sequestration, to change tradition agricultural cultivation and operation model which includes reducing the use of high carbon resource and fertilizer, increasing straw application, developing agricultural recycle economy, improving carbon-sequestration product, introducing agricultural carbon sequestration technology and re-establishing agricultural wetland system etc. Additionally, , in developing low-carbon creative product, people should bear more cultural connotation and arts design into consideration instead of the creativity merely in shape, colour and grow direction etc.

2) It Should Set up "Integration of Trade and Manufacture" Organization Model to Greatly Develop Export-oriented Ecological Agriculture.

Southeast coastal region has a favourable location with abundant fishery resources, adequate capital, advanced economy and high level of technology. Export-oriented village will be an important channel for agricultural development in southeast coastal region. Taking advantage of good geographic condition, it can strengthen the cooperation with other provinces or countries. Or farmer of creative agriculture can work with foreign enterprise or leading company in trade to construct purchase-distribution network system of agriculture product so as to form "leading trade company +farmer" organization model to integrate trade with manufacture, and to extend agriculture industry chain to realize integrated operation of manufacture, processing and export.

3) It Should Meet Urbanite's Demand to Work Hard on Green Recreation Agriculture.

As one of main parts in low-carbon economy, recreational tourism can encourage people to develop creative farmstead, to attract visitors for travel which is an important development form in low-carbon creative agriculture. Based on its own tourism resource advantage, southeast coastal region can develop green recreational agriculture integrating manufacture, ecology, recreation with sightseeing to develop economy and increase farmer's income. Taking ecological village in Hainan for instance, it can attract visitor by creating beautiful natural scenery and typical folk culture.

4) It Can Increase Investment of Technology to Try the Way of Efficient and Intensive Development.

People should change separated manufacture in traditional agriculture to build a big agriculture manufacture base. Moreover, it should make full use of environment and resource under the aid of modern agriculture technology to develop intensive agriculture. Reference to Holland's experience of flower industry, it can set up typical creative agricultural product to foster it to be a leading product and project all over the world.

5) It Will Introduce Modern Information Technology to Encourage "Carbon-saving and Value-added" in Creative Product Development and Talents Training.

Taking product in creative agriculture base as an example, people will make systematic development in modern network digital information technology and show the whole process of product's planting, growth and harvesting. The process not only offers high-added-value information and functional service, it also enjoys low energy consumption and pollution. What's more, introducing virtual technology to set up virtual farm with model which helps both students and farmers learn crop's growth process and cropland management knowledge to offset the weakness of distance education which has various negative influence on real crop planting, which is contributive to solving the time-and-space limitation in agriculture practice.

Conclusions

On developing creative agriculture, southeast coastal region should learn the examples from developed countries. That is, guided by the philosophy of low-carbon, ecology and sustainable development, people should transfer village natural resource and farmer intelligence into a motive to impel modern agriculture development by creativity. Firstly, government should take the responsibility for the encouragement on the research and development in low-carbon creative product and growth of green recreational tourism. Secondly, farmer should take advantage of favourable location to work on "integration of manufacture, trade and agriculture" export-oriented ecological agriculture to stretch agriculture industry chain to construct purchase and production distribution system. Finally, the investment on technology and IT should be made to benefit the efficient and intensive agriculture development.

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REFERENCES

- Bai, Mingyue. "Holland: Creative agriculture industrial chain." *Global Vision*, 2011,(11):74-76.
- Ilbery, B.W., Stiell, B. "Uptake of the Farm Diversification Grant Scheme in England." *Geography*. 1991 (76): 259-263.
- Li, Qianwen. "The campaign of 'One product in one village' and Its Implications." *World Agriculture*, 2005,(1): 32-35.
- Li, Qingze. "The development of 'One product in one village' in Japan's Oita Prefecture." *World Agriculture*, 2006,(3): 35-36.
- Li, Wuwei, Wang, Huimin. "Research on the Development Idea and Model of Creative Agriculture." *Issues in Agricultural Economy*, 2009,(2): 11-15.
- Liu, Liwei. "Creative Agriculture of Developed Countries: Their Development Path and Successful Experience." *Academic Exchange*, 2010,(8): 79-82.

- Liu, Liwei. "The internal mechanism of the development of creative agriculture in developed countries -- the Netherlands, Japan, Germany, the United Kingdom, for example." *World Agriculture*, 2010,(6): 20-24.
- Liu, Ping. "The Creative Agriculture and the New Rural Development in Japan." *Contemporary Economy of Japan*, 2009, (3): 56-64.
- Oppermann, Martin. "Rural tourism in southern Germany." *Annals of Tourism Research*. 1996,23 (1): 86-102.
- Si, Xunlian, Li, Ting, Zhu, Chengliang. "An Empirical Study on the Competitiveness of Creative Agriculture in West of China." *Science & Technology Progress and Policy*, 2010,(3): 34-39.
- Sun, Yang, Fan, Haibin, Zhang, Xia, Zhang, Jian. "Operation Modes for Creative Agriculture Tourism under the Background of Constructing Hainan into an International Tourism Island." *Tropical Agricultural Engineering*, 2011, 35(3): 40-42.
- Tan, Guan-ning. "Research and Discussion on the Development of Creative Agriculture in Guangxi." *Journal of Anhui Agricultural Sciences*, 2008,36(27): 12023-12025.
- Tiede,S., Schulz-Borck, H.. "Creative Agriculture in Munich Suburb of Germany." *Unity Magnize*. 2009,(1): 54-57.
- Walford, Nigel. "Patterns of development in tourist accommodation enterprises on farms in England and Wales." *Applied Geography*. 2001 (21): 331-345.
- Wang, Shujin, Zhang, Zhijuan. "Path and Proposal on the Creative Agriculture' Development--Take Shanghai for Example." *Chinese Agricultural Science Bulletin*, 2009,(11): 264-270.
- Wu, Xiangli. "Basic experience and experience inspiration of British agriculture tourism development." *Social Scientist*. 2005 (6): 117-121.
- Yu, Meilian, Zhang, Chen. "The development of Shanghai creative agriculture thinking from the Dutch experience." *anghai rural economy*, 2012,(9): 27-29.
- Yu, Xuemei. "Creative Agriculture in Munich Suburb of Germany." *Unity Magnize*. 2009,(1): 54-57.
- Yu, Xuemei. "For the city Department of "green belt"- - Munich suburb of rural development and enlightenment." *Unity Magnize*. 2006, 21(3): 29-34.
- Zhang, Jigang. "Creative agriculture in China." *Corporation Research*, 2008,(8): 54-56.
- Zhang, Jun. "Study on Development Pattern of Creation Agriculture in China: Initial Condition and Force-support System." *Technology Economics*, 2009,(6): 67-71.
- Zhou, Junling, Si, Kai. "Study on counterstrategy and situation of creative agriculture development in Xuzhou city." *Agricultural Economy* 2009,(9): 48-49.
- Zhang, Mu, Zhu, Hejian. "Information Technology and featured agriculture evaluation in southeast coastal region." *Agriculture press of China*, May, 2003.
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